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Sequence Listing was accepted.

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Reviewer: Anne Corrigan

Timestamp: [year=2008; month=9; day=29; hr=9; min=44; sec=3; ms=408;]

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Application No: 10561720 Version No: 2.0

Input Set:

Output Set:

Started: 2008-08-29 16:36:15.018
Finished: 2008-08-29 16:36:15.776
Elapsed: 0 hr(s) 0 min(s) 0 sec(s) 758 ms
Total Warnings: 8
Total Errors: 0
No. of SeqIDs Defined: 19
Actual SeqID Count: 19

| Error code | Error Description |
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| W 213 | Artificial or Unknown found in <213> in SEQ ID (18) |
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SEQUENCE LISTING

<110> Board of Trustees Operating Michigan State University
Allison, Richard F.

<120> Expression of a Recombinant Transgene

<130> 6550-000072/US/NPB

<140> 10561720

<141> 2005-12-22

<150> PCT/US04/21451

<151> 2004-07-02

<150> US 60/485,073

<151> 2003-07-03

<160> 19

<170> PatentIn version 3.5

<210> 1

<211> 26

<212> DNA

<213> Cowpea chlorotic mottle virus

<400> 1

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<210> 2

<211> 16

<212> DNA

<213> Cowpea chlorotic mottle virus

<400> 2

actccaaaga gttctt 16

<210> 3

<211> 835

<212> DNA

<213> Cauliflower mosaic virus

<400> 3

agattagcct tttcaatttc agaaagaatg ctaaccaca gatggttaga gaggcttacg 60

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ccaagaaggt taaagatgca gtcaaaagat tcaggactaa ctgcatcaag aacacagaga 180

aagatatatt tctcaagatc agaagtacta ttccagtatg gacgattcaa ggcttgcttc 240

acaaaccaag gcaagtaata gagattggag tctctaaaaa ggtagttccc actgaatcaa 300

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|---|-----|
| aggccatgga gtcaaagatt caaatagagg acctaacaga actcgccgta aagactggcg | 360 |
| aacagttcat acagagtctc ttacgactca atgacaagaa gaaaatcttc gtcaacatgg | 420 |
| tggagcacga cacacttgtc tactccaaaa atatcaaaga tacagtctca gaagaccaa | 480 |
| gggcaattga gacttttcaa caaagggtaa tatccggaaa ctcctcgga ttccattgcc | 540 |
| cagctatctg tcactttatt gtgaagatag tggaaaagga aggtggctcc taaaaatgcc | 600 |
| atcattgcga taaaggaaag gccatcgttg aagatgcctc tgccgacagt ggtcccaaag | 660 |
| atggaccccc acccacgagg agcatcgtag aaaaagaaga cgttccaacc acgtcttcaa | 720 |
| agcaagtgga ttgatgtgat atctccactg acgtaaggga tgacgcacaa tcccactatc | 780 |
| cttcgcaaga cccttcctct atataaggaa gttcatttca tttggagaga acacg | 835 |

<210> 4
 <211> 581
 <212> DNA
 <213> Encephalomyocarditis virus

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| <400> 4 aattccgccc ctctccctcc ccccccccta acgttactgg ccgaagccgc ttggaataag | 60 |
| gccgggtgtgc gtttgtctat atgtgatttt ccaccatatt gccgtctttt ggcaatgtga | 120 |
| gggcccggaa acctggccct gtcttcttga cgagcattcc taggggtctt tcccctctcg | 180 |
| ccaaaggaat gcaaggtctg ttgaatgtcg tgaaggaagc agttcctctg gaagcttctt | 240 |
| gaagacaaaac aacgtctgta gcgacctttt gcaggcagcg gaacccccca cctggcgaca | 300 |
| ggtgcctctg cggccaaaag ccacgtgtat aagatacacc tgcaaaggcg gcacaacccc | 360 |
| agtgccacgt tgtgagttgg atagtgtgg aaagagtcaa atggctctcc tcaagcgtat | 420 |
| tcaacaaggg gctgaaggat gcccagaagg taccctattg tatgggatct gatctggggc | 480 |
| ctcgggtgcac atgctttaca tgtgtttagt cgaggttaaa aaaacgtcta ggccccccga | 540 |
| accacgggga cgtgggtttc ctttgaaaaa cacgatgata a | 581 |

<210> 5
 <211> 581
 <212> RNA
 <213> Encephalomyocarditis virus

| | |
|--|-----|
| <400> 5 aauuccgccc cucuccucc cccccccua acguuacugg ccgaagccgc uuggaauaag | 60 |
| gccggugugc guuugucuau augugauuuu ccaccauauu gccgucuuuu ggcaauguga | 120 |
| gggcccggaa accuggcccu gucuucuuga cgagcauucc uaggggucuu ucccucucg | 180 |

| | |
|---|-----|
| ccaaaggaau gcaaggucug uugaaugucg ugaaggaagc aguuccucug gaagcuucuu | 240 |
| gaagacaaac aacgucugua gcgacccuuu gcaggcagcg gaacccccca ccuggcgaca | 300 |
| ggugccucug cggccaaaag ccacguguau aagauacacc ugcaaaggcg gcacaacccc | 360 |
| agugccacgu ugugaguugg auaguugugg aaagagucaa auggcucucc ucaagcguau | 420 |
| ucaacaaggg gcugaaggau gcccagaagg uaccccauug uaugggaucu gaucuggggc | 480 |
| cucggugcac augcuuuaa uguguuuagu cgagguaaaa aaaacgucua ggccccccga | 540 |
| accacgggga cgugguuuuc cuuugaaaaa cacgaugaua a | 581 |

<210> 6
 <211> 581
 <212> DNA
 <213> Encephalomyocarditis virus

| | |
|---|-----|
| <400> 6 | |
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| ttttaacctc gactaaacac atgtaaagca tgtgcaccga ggccccagat cagatcccat | 120 |
| acaatggggt accttctggg catccttcag ccccttggtg aatacgcttg aggagagcca | 180 |
| tttgactctt tccacaacta tccaactcac aacgtggcac tggggttgtg ccgcctttgc | 240 |
| aggtgtatct tatacacgtg gcttttggcc gcagaggcac ctgtcgccag gtgggggggt | 300 |
| ccgctgcttg caaagggtcg ctacagacgt tgtttgtctt caagaagctt ccagaggaac | 360 |
| tgcttccttc acgacattca acagaccttg cattcctttg gcgagagggg aaagaccct | 420 |
| aggaatgctc gtcaagaaga cagggccagg tttccgggcc ctacattgc caaaagacgg | 480 |
| caatatggtg gaaaatcaca tatagacaaa cgcacaccgg ccttattcca agcggttcg | 540 |
| gccagtaacg ttaggggggg gggagggaga ggggcggaat t | 581 |

<210> 7
 <211> 581
 <212> RNA
 <213> Encephalomyocarditis virus

| | |
|---|-----|
| <400> 7 | |
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| uuuuuaccuc gacuaaacac auguaaagca ugugcaccga ggccccagau cagaucccau | 120 |
| aaaugggggu accuucuggg cauccuucag ccccuuguug aaucgcuug aggagagcca | 180 |
| uuugacucuu uccacaacua uccaacucac aacguggcac ugggguugug ccgccuuugc | 240 |

| | |
|---|-----|
| agguguauc uauacacgug gcuuuuggcc gcagaggcac cugucgccag gugggggguu | 300 |
| ccgcugccug caaagggucg cuacagacgu uguuugucuu caagaagcuu ccagaggaac | 360 |
| ugcuuccuuc acgacauuca acagaccuug cauuccuuug gcgagagggg aaagaccccu | 420 |
| aggaaugcuc gucaagaaga cagggccagg uuuccgggcc cucacauugc caaaagacgg | 480 |
| caauauggug gaaaaucaca uauagacaaa cgcacaccgg ccuuauucca agcgguucg | 540 |
| gccaguaacg uuaggggggg gggagggaga gggcggaau u | 581 |

<210> 8
 <211> 242
 <212> DNA
 <213> Cowpea chlorotic mottle virus

| | |
|---|-----|
| <400> 8 agtgcccgt gaagagcgtt acactagtgt ggcctacttg aaggctagtt ataaccgttt | 60 |
| ctttaaacgg taatcgttgt tgaaacgtct tccttttaca agaggattga gctgcccttg | 120 |
| ggttttactc cttgaaccct tcggaagaac tctttggagt tcgtaccagt acctcacata | 180 |
| gtgaggtaat aagactggtg ggcagcgcct agtcgaaaga ctaggtgatc tctaaggaga | 240 |
| cc | 242 |

<210> 9
 <211> 242
 <212> RNA
 <213> Cowpea chlorotic mottle virus

| | |
|---|-----|
| <400> 9 agugcccgc gaagagcguu acacuagugu ggccuacuug aaggcuaguu auaaccguuu | 60 |
| cuuuuaacgg uaaucguugu ugaaacgucu uccuuuuaca agaggauuga gcugcccuug | 120 |
| gguuuuacuc cuugaaccu acggaagaac ucuuuggagu ucguaccagu accucacaua | 180 |
| gugagguaau aagacuggug ggcagcgcgu agucgaaaga cuaggugaug ucuaaggaga | 240 |
| cc | 242 |

<210> 10
 <211> 242
 <212> DNA
 <213> Cowpea chlorotic mottle virus

| | |
|---|-----|
| <400> 10 ggtctcetta gagatcacct agtctttcga ctaggcgctg cccaccagtc ttattacctc | 60 |
| actatgtgag gtactggtac gaactccaaa gagttcttcc gaagggttca aggagtaaaa | 120 |

cccaagggca gctcaatcct cttgtaaaag gaagacgttt caacaacgat taccgtttaa 180
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 ct 242

<210> 11
 <211> 242
 <212> RNA
 <213> Cowpea chlorotic mottle virus

<400> 11
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 cccaagggca gcucaauccu cuuguaaaag gaagacguuu caacaacgau uaccguuuua 180
 agaaacggguu auaacuagcc uucaaguagg ccacacuagu guaacgcucu ucagcgggca 240
 cu 242

<210> 12
 <211> 12
 <212> DNA
 <213> Artificial

<220>
 <223> Artificial sequence used to show antisense relationship of a gene
 and IRES to a promoter and viral 3' UTR

<220>
 <221> misc_feature
 <222> (1)..(3)
 <223> n is a, c, g, or t

<400> 12
 nnncatggaa tt 12

<210> 13
 <211> 12
 <212> DNA
 <213> Artificial

<220>
 <223> Complement of artificial sequence used to show antisense
 relationship of a gene and IRES to a promoter and viral 3' UTR

<220>
 <221> misc_feature
 <222> (10)..(12)
 <223> n is a, c, g, or t

<400> 13
 aattccatgn nn 12

<210> 14
 <211> 12
 <212> RNA
 <213> Artificial

<220>
 <223> Transcript of RNA polymerase

<220>
 <221> misc_feature
 <222> (1)..(3)
 <223> n is a, c, g, or u

<400> 14
 nnncauggaa uu 12

<210> 15
 <211> 12
 <212> RNA
 <213> Artificial

<220>
 <223> Complement of transcript of RNA polymerase

<220>
 <221> misc_feature
 <222> (10)..(12)
 <223> n is a, c, g, or u

<400> 15
 aaauccaugn nn 12

<210> 16
 <211> 12
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> DNA Construct containing promoter complementary coding sequence,
 exemplary IRES complementary sequence and a viral 3' UTR in 5' -
 3' orintation

<220>
 <221> misc_feature
 <223> DNA construct wherein YYY indicates complementary first
 translatable codon after initiation codon and an asterisk
 indicates a stop codon.

<400> 16
 yyycatggaa tt 12

<210> 17
 <211> 12
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> DNA Construct containing promoter, coding sequence, exemplary
 IRES sequence and a viral 3' UTR in 3' - 5' orintation

<220>
 <221> misc_feature
 <223> DNA construct wherein XXX indicates first translatable codon
 after initiation codon and an asterisk indicates a stop codon.

<400> 17
 yyygtacctt aa 12

<210> 18
 <211> 12
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> RNA Construct containing complementary coding sequence, exemplary
 IRES complementary sequence and a viral 3' UTR in 5' - 3'
 orintation

<220>
 <221> misc_feature
 <223> Recombinant RNA sequence where YYY is the complement of the first
 codon after the initiation codon and where an asterisk indicates
 a stop codon.

<400> 18
 yyycauggaa uu 12

<210> 19
 <211> 12
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> RNA Construct containing viral 3' UTR, exemplary IRES sequence
 and a coding sequence in 5' - 3' orientation

<220>
 <221> misc_feature

<223> Complementary sequence (sense strand) of RNA recombinant sequence
where XXX is the first translatable codon after initiation codon
and where an asterisk indicates a stop codon.

<400> 19

aaauccaugy yy

12